

8902848, and rejected claims 10 and 12 under U.S.C. 103(a) as being unpatentable over the reference KR 8902848 in view of the reference of Rosenblatt.

In regards to claims 1-7, 11, and 13-20, claims 1-7 was previously cancelled and claims 11, and 13-20 was previously withdrawn from consideration per the Applicant's attorney's teleconference with the Office dated June 22, 2004.

**Rejection under the doctrine  
of obviousness-type double patenting**

Claims 8 and 9 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 5, 7, 8 of U.S. Patent No. 6,446,814. Claims 10 and 12 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 5, 7, 8 of U.S. patent No. 6,446,814 in view of the reference of Rosenblatt (U.S. Patent No. 6,365,169).

In regards to Patent No. 6,446,814, the Applicant hereby submits that the Applicant is the owner of Patent No. 6,446,814. Although the Applicant respectfully disagrees with the Office's above rejection, in order to place the application in a condition for allowance, the Applicant has enclosed a terminal disclaimer pursuant to Rule 37 CFR 1.321(c) along with the associated fee in the amount of \$65.00 pursuant to Rule 37 CFR 1.20(d) in order to overcome the above double patenting rejections. It is for the aforementioned that the Applicant respectfully request that the Office's above double patenting rejections be withdrawn.

**Rejection under 35 U.S.C. 102(b) to KR 8902848**

Applicant's method claims 8 and 9 stand rejected under 35 U.S.C. 102(b) as being anticipated by the reference KR 8902848. The Applicant respectfully disagrees with the Office's aforementioned rejection of Applicant's method claims 8 and 9.

In regards to Applicant's independent method claim 8, Applicant's independent method claim 8 calls for a method of applying a water treatment composition to an article including the step of:

“...applying a metal ion yielding material in particle form to the adhesive on the web ....” (Emphasis added.)

It is submitted that the reference KR 8902848 does not teach the step of applying of metal ion yielding material in particle form to the adhesive. It is noted that a review of the copy of the reference KR 8902848 obtained from the Office revealed that reference KR 8902848 fails to teach the application of silver active carbon and untreated active carbon to an adhesive. To the contrary, the Applicant respectfully submits that KR 8902848's disclosure of:

“... filling between two ... permeable nonwoven fabrics (coated with adhesive on the inner side only) with silver-added active carbon ... and untreated active carbon by alternating the silver-added active carbon and untreated carbon in repetition; in repeating ...” (emphasis added.)

teaches away from the step of “applying a metal ion yielding material in particle form to the adhesive.” Note for example that the “filling” between the two permeable nonwoven fabrics with silver-added active carbon and untreated active carbon requires the presence of

a pocket or compartment located between the two permeable nonwoven fabrics for receiving the active carbon. The presence of an adhesive located on the interior walls of the pocket or compartment would cause the region of the two permeable nonwoven fabrics comprising the pocket or compartment to secure to each other thereby leading to the collapse of the pocket or compartment.

In further regards to KR 8902848, note that although the reference KR 8902848 discloses in parentheses that the inner side of the nonwoven fabrics is coated with adhesive, the reference KR 8902848 does not teach whether the aforementioned adhesive coating is limited to just a portion of the inner side of the nonwoven fabrics or to the entire inner side of the nonwoven fabrics. Further note that the KR 8902848 reference also fails to teach the purpose or function of the adhesive, for example whether the adhesive coating is for securing the nonwoven fabrics of KR 8902848 together or for securement of silver-added active carbon and untreated carbon of KR 8902848 thereto.

In *ATD Corp. v. Lydall, Inc.*, Fed. Circuit held that in order for a reference to anticipate, the :

“... anticipating reference must describe the patented subject matter with sufficient clarity and detail to establish that the subject matter existed and that its existence was recognized by persons of ordinary skill in the field of the invention.”<sup>1</sup>

In view of *ATD Corp. v. Lydall, Inc.*, the Applicant respectfully submits that the KR 8902848 reference does not anticipate Applicant's independent claim 8 as reference KR

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<sup>1</sup> *ATD Corp. v. Lydall, Inc.*, 48 USPQ 2d 1321, 1328 (Fed. Cir. 1998)

8902848 does not describe with sufficient clarity and detail the use and function of the adhesive so as to anticipate the step of “... applying a metal ion yielding material in particle form to the adhesive on the web ....” of Applicant’s independent claim 8.

In further regards to the KR 8902848 reference’s disclosure of the adhesive, the Applicant respectfully submits under *In re Oelrich*<sup>2</sup> that the mere disclosure of an adhesive coating the inner side of the nonwoven fabrics is not sufficient to lead to the conclusion that the silver-added active carbon and untreated active carbon of the KR 8902848 reference are actually applied to the adhesive.

On page 6, lines 6-9 of the Office Action, in responding to the Applicant’s previous response, the Office stated:

“If the filled silver-added active carbon and untreated carbon are maintained between the two nonwoven fabrics only by “heat-sealing”, adhesives would not been applied. Clearly, at least a surface portion of the first layer of the filled silver-added active carbon is held in place by adhesive.” (Emphasis added.)

The Applicant respectfully disagrees with the Office’s above statement. Firstly, as the Applicant previously noted, a review of the reference KR 8902848 revealed that the reference of KR 8902848 does not teach silver-added active carbon held in place by adhesive.

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<sup>2</sup> *In re Oelrich*, 212 USPQ 323, 326 (C.C.P.A.) (quoting *Hasgigirg v. Kemmer*, 40 USPQ 665, 667 (C.C.P.A. 1939) (“Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.”)

Secondly, the Applicant respectfully submits that the KR 8902848 reference's vague disclosure of the presence of an adhesive on the inside of the permeable nonwoven fabric "alone" without further describing the purpose of the adhesive is not sufficient to lead to the conclusion that "the filled silver-added active carbon is held in place by adhesive" as the KR 8902848 reference.

Note for example that the KR 8902848 reference's disclosure of the inner side of the nonwoven fabrics being coated with adhesive may interpreted as limited to a portion of the inner side, namely the edges of the inner side, coated with the adhesive so as to allow the two nonwoven fabrics to form a pocket therebetween. Once the pocket is formed the silver-added active carbon and untreated active carbon is filled therebetween after which a heat source is directed to the region of the two nonwoven fabrics containing the adhesive to strengthen the bonding between the two nonwoven fabrics thereby "heat sealing" the nonwoven fabrics.

In further regards to the above, note in the case of *In re Donohue*, the court held a §102(b) reference:

"...must sufficiently describe the claimed invention to have placed the public in possession of it."<sup>3</sup> (Emphasis added.)

The court further elaborated:

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<sup>3</sup> *In re Donohue*, 226 USPQ 619, 621 (Fed. Cir. 1985) (citing *In re Samour*, 197 USPQ 1, 4 (CCPA 1978)).

“... even if the claimed invention is disclosed in a printed publication, that disclosure will not suffice as prior art if it was not enabling.”<sup>4</sup> (Emphasis added.)

In view of *In re Donohue*, the Applicant respectfully submits that the KR 8902848 reference will not suffice as proper prior art to anticipate Applicant’s method claims 8 and 9 as the KR 8902848 reference does not sufficiently describe the claimed invention (namely, the purpose/use of the adhesive) to have placed the claimed invention in the public’s possession.

In further regards to Applicant’s independent claim 8, Applicant’s independent claim 8 also includes the step of:

“... allowing the adhesive to dry to secure the metal ion yielding material to the web of material ...”(Emphasis added.)

It is submitted that the reference KR 8902848 does not teach the securement of the silver-added active carbon and untreated carbon to the permeable nonwoven fabrics by allowing the adhesive to dry.

On page 3, lines 16-18 of the Office Action, in responding to the Applicant’s previous response, the Office stated:

“... the use of the adhesive on the inner side only implies that adhesive was allowed to dry and secure the silver added active carbon because drying the adhesive with the applied metal ion yielding material would secure the metal ion yielding material to the web.”

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<sup>4</sup> Id. (citing *In re Borst*, 145 USPQ 554, 557 (CCPA 1965.))

The Applicant respectfully disagrees with the Office above statement. Please note that a review of the reference KR 8902848 revealed that the reference of KR 8902848 fails teach the step of allowing the adhesive to dry to secure the silver-added active carbon and untreated carbon to the nonwoven fabrics. To the contrary, as previously noted, the reference of KR 8902848 does not even teach that the silver-added active carbon and untreated carbon are applied to the adhesive. The reference KR 8902848 instead teaches "... heat-sealing the nonwoven fabrics" to maintain the filled silver-added active carbon and untreated carbon between the two nonwoven fabrics.

It is submitted that the heat-sealing of the two nonwoven fabrics to maintain the filled silver-added active carbon and untreated carbon therebetween as taught in the reference KR 8902848 is different from the securement of the metal ion yielding material to the web of material by allowing an adhesive to dry as call for in Applicant's amended method claim 8 as heat-sealing the two nonwoven fabrics encases the carbons therebetween instead of securing the carbons thereto.

It is for the above reasons that the Applicant submits that Applicant's amended independent method claim 8 is allow is allowable over the reference KR 8902848.

**Rejection under 35 U.S.C. 103(a) to the  
combination of KR 8902848 and Rosenblatt**

Claims 10 and 12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the reference KR 8902848 in view of the reference of Rosenblatt.

In regards to independent method claim 10, Applicant's independent claim 10 calls for a method of making an article for insitu water treatment including the step of:

“... selecting an adhesive from the group consisting of polyurethane, epoxy resin, polyvinyl acetate and polyvinyl alcohol ...” (Emphasis added.)

It is submitted that the combination of KR 8902848 and Rosenblatt does not teach the above. In regards to the KR 8902848 reference, the Office on page 6, line 12 of the Office Action dated June 30, 2004 stated “KR 8902848 fails to teach that the adhesive is polyvinyl acetate (PVA)(Claim 10) ...” The Applicant agrees with the aforementioned.

In regards the reference of Rosenblatt, the Office however, on page 5, lines 6-7 of the Office Action dated June 30, 2004 stated:

“Rosenblatt teaches that PVA adhesives together with iodine and other antimicrobial components (See column 6, lines 36-44) can be used in making water filters ...”

The Applicant respectfully disagrees with the Office's above statement. As noted above, Applicant's independent method claim 10 teaches the use of a PVA adhesive in making an article for insitu water treatment. It is noted that although Rosenblatt teaches that adhesives can be made from a PVA resin (column 8, line 2) and that a PVA iodine complex can be used in making water filters (column 8, line 11), it is submitted that Rosenblatt does not teach the use of a PVA adhesive in making an article for insitu water treatment as called for in Applicant's independent method claim 10.



Note that Applicant's independent method claim 10 specifically calls for the step of "... selecting an adhesive from the group consisting of polyurethane, epoxy resin, polyvinyl acetate and polyvinyl alcohol ..." It is submitted that Rosenblatt's disclosure of using a complex comprising PVA and iodine for making water filters is outside of the prescribed group of possible adhesive listed in independent method claim 10 for use in making the water treatment article.

Applicant's independent claim 10 also includes the steps of:

"... applying the adhesive to the water insoluble solid structure to form at least a partial coating thereon;  
applying the water treatment material to the adhesive on said solid structure;  
allowing the adhesive to set to thereby secure the water treatment material to the solid structure ..."

It is submitted that the combination of KR 8902848 and Rosenblatt does not teach the above as neither KR 8902848 nor Rosenblatt teaches the step of allowing an adhesive to set to secure a water treatment material to a solid structure.

Applicant's independent claim 10 further includes the steps of:

"... forming the structure into an article for placement into a body of water to thereby enable the structure to adhesively support the water treatment material thereon in a condition that maintains a water concentration of metal ions less than 1000 parts per billion (ppb)." (Emphasis added.)

It is submitted that the combination of KR 8902848 and Rosenblatt does not teach the above as neither KR 8902848 nor Rosenblatt teaches the step of forming a structure that

can adhesively support a water treatment material thereon in a condition that maintains a water concentration of metal ions less than 1000 parts per billion (ppb).

It is for the above reasons that the Applicant respectfully submits that Applicant's independent claim 10 is allowable over the reference KR 8902848 in view of the reference of Rosenblatt.

In regards to claim 12, Applicant's dependent method claim 12 calls for the method of claim 10:

“... wherein the selected adhesive is sprayed on the solid structure and the selected water treatment material is applied to the adhesive on the structure.”

It is submitted that the combination of KR 8902848 and Rosenblatt does not teach the above. In regards to the KR 8902848 reference, the Office on page 6, lines 12-13 of the Office Action dated June 30, 2004 stated:

“KR 8902848 fails to teach that the adhesive is polyvinyl acetate (PVA)(Claim 10) and is applied by spraying (Claim 12).” (Emphasis added.)

The Applicant agrees with the above. In regards the reference of Rosenblatt, the Office however, on page 5, lines 6-7 of the Office Action dated June 30, 2004 stated:

“Rosenblatt teaches that PVA adhesives together with iodine and other antimicrobial components ... can be applied by spraying (See column 8, lines 1-11).”

The Applicant respectfully disagrees with the Office's above statement. It is noted that although Rosenblatt teaches that a PVA resin mix/PVA iodine complex can be applied to a surface by spraying (column 6, lines 9-17), it is submitted that Rosenblatt does not teach the spraying of a PVA adhesive onto a solid structure as called for in Applicant's independent method claim 10.

It is for the above reasons that the Applicant respectfully submits that Applicant's dependent method claim 12 is allowable over the reference KR 8902848 in view of the reference of Rosenblatt.

In further regards to Applicant's claims 9 and 12, Applicant's dependent claim 9 depends on Applicant's independent claim 8 and Applicant's dependent claim 12 depends on Applicant's independent claim 10. Since Applicant's independent claim 8 and Applicant's independent claim 10 are allowable for the reasons given above, Applicant's dependent claims 9 and 12 should also be allowable.

In view of the above, it is submitted that the application is in condition for allowance. Allowance of claims 8-10 and 12, as amended, is respectfully requested. Applicant has enclosed a version of the amendment showing changes made with this response.

## **VERSION OF AMENDMENTS SHOWING MARKINGS**

### **In the Claims**

1 - 7. (Canceled)

8. (Previously Presented) A method of applying a water treatment composition to an article comprising the steps of:

- a) applying an adhesive to a web of material;
- b) applying a metal ion yielding material in particle form to the adhesive on the web;
- c) allowing the adhesive to dry to secure the metal ion yielding material to the web of material; and
- d) forming the particle containing web into an article for use in water purification.

9. (Original) The method of claim 8 wherein the particle containing web is formed into a filter.

10. (Original) A method of making an article for insitu water treatment comprising the steps of:

selecting a water treatment material from the group consisting of zinc sulfate, zinc carbonate, zinc chloride, copper chloride, copper carbonate, copper sulfate, silver chloride, stannous chloride and stannic chloride;

selecting an adhesive from the group consisting of polyurethane, epoxy resin,

polyvinyl acetate and polyvinyl alcohol;

selecting a water insoluble solid structure;

applying the adhesive to the water insoluble solid structure to form at least a partial coating thereon;

applying the water treatment material to the adhesive on said solid structure;

allowing the adhesive to set to thereby secure the water treatment material to the solid structure; and

forming the structure into an article for placement into a body of water to thereby enable the structure to adhesively support the water treatment material thereon in a condition that maintains a water concentration of metal ions less than 1000 parts per billion (ppb).

11. (Withdrawn) The method of claim 10 wherein the selected adhesive and selected water treatment material are combined in a slurry and simultaneously coated onto the structure using a die coater.

12. (Original) The method of claim 10 wherein the selected adhesive is sprayed on the solid structure and the selected water treatment material is applied to the adhesive on the structure.

13. (Withdrawn) The method of claim 10 wherein the selected adhesive is roll coated onto the structure and the selected water treatment material is applied to the roll coated adhesive on the structure.

14. (Withdrawn) The method of claim 10 wherein the selected adhesive is die coated onto the structure and the selected water treatment material is applied to the die coated adhesive on the structure.

15. (Withdrawn) The method of claim 10 wherein the solid structure is immersed into the selected adhesive and the selected water treatment material is applied to the adhesive after the structure is removed from the adhesive.

16. (Withdrawn) The method of claim 10 wherein the selected adhesive applied to the solid structure is limited by a knife and the selected water treatment material is applied to the adhesive on the structure.

17. (Withdrawn) The method of claim 10 wherein the selected adhesive is roll coated onto the structure and the selected water treatment material is roll coated on the adhesive on the structure.

18. (Withdrawn) A process of making a water treatment composition including the steps of:

a) mixing a first amount of silver nitrate into a first batch of water to form a silver nitrate mixture;

b) mixing a first amount of sodium chloride into the silver nitrate mixture to form a silver chloride mixture;

c) mixing an adhesive securable to both silver chloride and to support particles into a second batch of water to form an adhesive mixture;

d) combining the silver chloride mixture and the adhesive mixture to form an adhesive silver chloride mixture;

e) applying the adhesive silver chloride mixture to support particles; and

f) curing the adhesive silver chloride mixture insitu on the support particles to form support particles having a coating containing silver chloride.

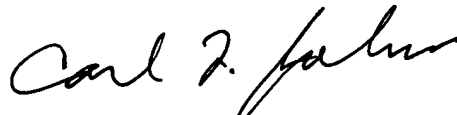
19. (Withdrawn) The process of making a water treatment composition according to claim 18 wherein mixing an adhesive into a second batch of water includes mixing polyvinyl acetate adhesive into a second batch of water.

20. (Withdrawn) The process of making a water treatment composition according to claim 18 wherein mixing an adhesive into a second batch of water includes mixing polyurethane adhesive into a second batch of water.

Respectfully submitted,

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